

CLAIMS

1. An over-coating agent for forming fine patterns which is applied to cover a substrate having photoresist patterns thereon and allowed to shrink under heat so that the spacing between adjacent photoresist patterns is lessened, with the applied film of the over-coating agent being removed substantially completely to form fine patterns, further characterized by containing (a) a water-soluble polymer and (b) a water-soluble crosslinking agent having at least one nitrogen atom in its structure.
2. The over-coating agent for forming fine patterns according to claim 1, wherein component (a) is at least one member selected from among acrylic polymers, vinyl polymers and cellulosic polymers.
3. The over-coating agent for forming fine patterns according to claim 1, wherein component (b) is at least one member selected from among triazine derivatives, glycoluril derivatives and urea derivatives.
4. The over-coating agent for forming fine patterns according to claim 1, which is an aqueous solution having a concentration of 3 - 50 mass%.
5. The over-coating agent for forming fine patterns according to claim 1, wherein the agent, in terms of solid matters, contains 1 - 99 mass% of component (a) and 1 - 99 mass% of component (b).
6. The over-coating agent for forming fine patterns according to claim 1, wherein the agent, in terms of solid mat-

ters, contains 40 - 99 mass% of component (a) and 1 - 60 mass% of component (b).

7. A method of forming fine patterns comprising the steps of covering a substrate having thereon photoresist patterns with the over-coating agent for forming fine patterns of claim 1, then applying heat treatment to shrink the applied over-coating agent under the action of heat so that the spacing between adjacent photoresist patterns is lessened, and subsequently removing the applied film of the over-coating agent substantially completely.

8. The method of forming fine patterns according to claim 7, wherein the heat treatment is performed by heating the substrate at a temperature that does not cause thermal fluidizing of the photoresist patterns on the substrate.